

IN THE CLAIMS

1 (Currently Amended). A method comprising:

securing an integrated circuit having microchannels formed therein to an integrated circuit to be cooled;

enabling a cooling fluid to be pumped through said microchannels by an electroosmotic pumps pump within a microchannel; and

coupling said cooling fluid to an external heat exchanger through tubes.

2 (Original). The method of claim 1 including packaging said cooling integrated circuit and said heat generating integrated circuit.

3 (Original). The method of claim 2 including extending tubes from said package to said external heat exchanger such that said heat exchanger is spaced from said package.

4 (Original). The method of claim 1 including forming a stack of said cooling integrated circuit and said heat generating integrated circuit.

5 (Original). The method of claim 4 including sealing the edges of said stack except for ports to access said microchannels.

6 (Original). The method of claim 5 including providing a fluid inlet reservoir and a fluid outlet reservoir in communication with said microchannels.

7 (Original). The method of claim 6 including forming said reservoirs in a package including said stack.

8 (Original). The method of claim 7 including isolating said inlet and outlet reservoirs in said package.

9 (Original). The method of claim 8 including coupling said inlet and outlet reservoirs exteriorly of said package.

Claims 10-22 (Canceled).

23 (New). A method comprising:

securing an integrated circuit having microchannels formed therein to an integrated circuit to be cooled;

enabling a cooling fluid to be pumped through said microchannels by an electroosmotic pump within a microchannel;

coupling said cooling fluid to an external heat exchanger through tubes; and recombining gas using a recombiner formed in said microchannel in series with said pump.

24 (New). The method of claim 23 including packaging said cooling integrated circuit and said heat generating integrated circuit.

25 (New). The method of claim 24 including extending tubes from said package to said external heat exchanger such that said heat exchanger is spaced from said package.

26 (New). The method of claim 23 including forming a stack of said cooling integrated circuit and said heat generating integrated circuit.

27 (New). The method of claim 26 including sealing the edges of said stack except for ports to access said microchannels.

28 (New). The method of claim 27 including providing a fluid inlet reservoir and a fluid outlet reservoir in communication with said microchannels.

29 (New). The method of claim 28 including forming said reservoirs in a package including said stack.

30 (New). The method of claim 29 including isolating said inlet and outlet reservoirs in said package.

31 (New). The method of claim 30 including coupling said inlet and outlet reservoirs exteriorly of said package.